



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/619,702

07/15/2003

Kenneth H. Purser

527P019

7152

7590

08/09/2004

Kevin S. Lemack  
Nields & Lemack  
Suite 7  
176 E. Main Street  
Westboro, MA 01581

EXAMINER

LEYBOURNE, JAMES J

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/619,702	PURSER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	James J. Leybourne	2881	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 is/are allowed.
- 6) ☐ Claim(s) 1-3 and 8 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoki et al. (USPN 6a60262). In Fig. 20 C Aoki et al. disclose an apparatus for used for ion implanting comprising: a structure **4** of magnetic material with an upper core **G** and a lower core **C** having long dimensions between their ends and with parallel axis; a plurality of independent current excited coil units, **Sa**, **M21**, **M22**, **Sb** etc. are distributed along core members **C** and **G**. Additional magnetic members **A** and **C** are connected between the ends members or **G** and **C** to form the short dimensions of a rectangular frame.

The plurality of independent coils are wound on left and right frames of the window/frame type yoke and coil currents are adjusted to thereby generate substantially uniform longitudinal magnetic field in the wide gap between magnetic poles (column 7, lines 60-64). The coil units are equally spaced and have an identical number of coils (see Fig. 20 C). The coil currents are adjusted to control the shape, size and

parallelism of the ion beam (column 7, lines 31-38). It is inherent that there is a current controller.

***Allowable Subject Matter***

3. Claims 9-14 are allowed.

4. The following is an examiner's statement of reasons for allowance:

Regarding independent claim 9, the prior art fails to disclose or make obvious a structure of magnetic material with an upper core and a lower core having long dimensions between their ends and with parallel axis; a plurality of independent current excited coil units distributed along said cores, additional magnetic members connected between the ends that form the short dimensions of a rectangular frame; magnetic core extension units that are attached in a linear array to each end of both upper and lower basic core members; and a plurality of independent current excited coil units distributed along said magnetic core extension units, each said extension coil unit comprising a single continuous electrical circuit that surrounds an individual core extension unit.

Claims 10-14 are allowed by virtue of their dependency on claim 9.

5. Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 4, the prior art fails to disclose or make obvious a structure as cited in claim 1 wherein the short dimension members of the structure comprise a non-magnetic material.

Regarding claim 5, the prior art fails to disclose or make obvious a structure as cited in claim 1, further comprising a plurality of independently current excited electrical windings encircling one or both of said short dimension members.

Regarding claim 6, the prior art fails to disclose or make obvious a structure as cited in claim 1 wherein a single current excited winding encircles one or both of said short dimension core members.

Regarding claim 7, the prior art fails to disclose or make obvious a structure as cited in claim 1 wherein individual ones of said current excited coil units are super conducting.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is (571) 272-2478. The examiner can normally be reached on M-F 9:00- 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 4, 2004

JJL



**NIKITA WELLS**  
**PRIMARY EXAMINER**

08/06/04